The CHEMIST

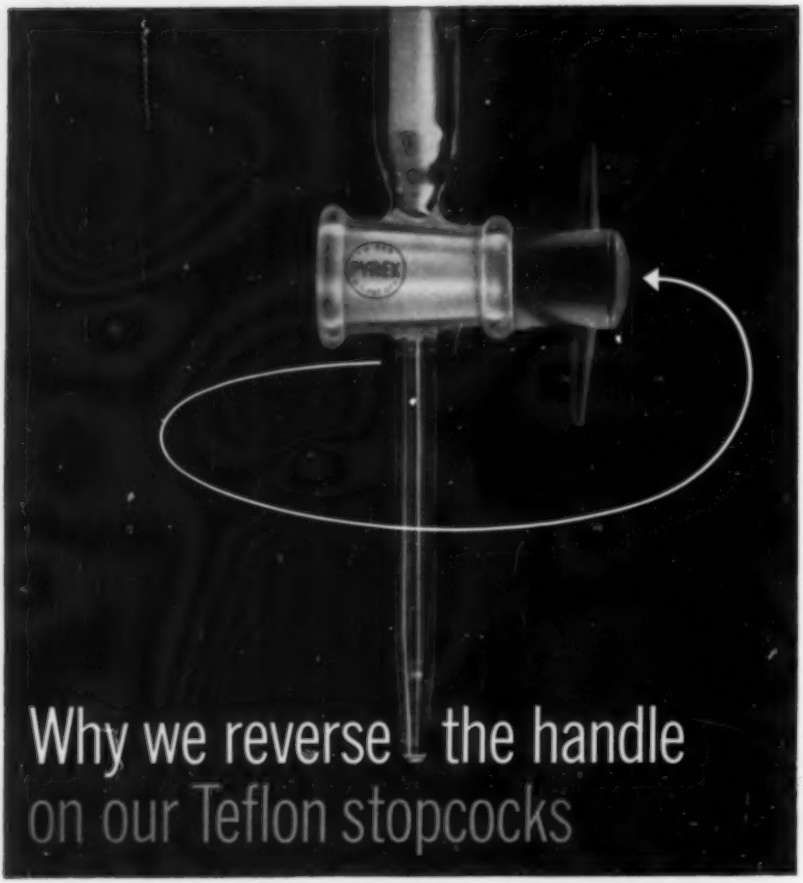
February 1961

Dr. J. Frederic Walker, F.A.I.C., Chairman of the Niagara AIC Chapter

(*See page* 41)

Volume XXXVIII

Number 2



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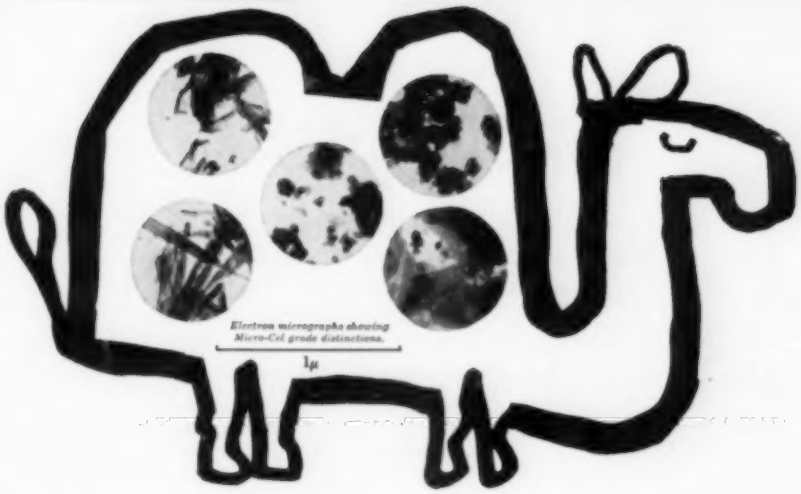

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Vol. XXXVIII February, 1961 Number 2

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Deadlines for THE CHEMIST: For the March issue the deadline is Feb. 15.

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IN THIS ISSUE

To Come in March

We hope to have the acceptance address of Victor Kohn, science writer, who received the Honor Scroll of the Twin City Chapter, January 31 . . . Emerson Venable, consultant of Pittsburgh, discusses "Consulting Costs," with particular reference to smaller manufacturers . . . Dr. E. R. Braithwaite of South Devon, England, is the second to respond to Dr. Otto Eisenschiml's desire to read about "The Public's Responsibility to Scientists." . . . Bernard E. Schaar, Hon. AIC, a delegate to the White House Conference on Aging, will report on this Conference.

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GUEST EDITORIAL

To Be or Not To Be

Dr. J. Frederic Walker, F.A.I.C.

Patent Section, E. I. du Pont de Nemours & Co., Niagara Falls, N. Y.

THE man who claims complete knowledge of anything merely publicizes the fact that he is no longer capable of learning. A mind that has stopped growing is dead no matter how long the funeral is postponed. Chemists should be the last to assert complete knowledge since they know that science can advance only so long as the scientist can accept new viewpoints. Scientists who believe that today's theories are the ultimate truth, will have no place in the modern world.

However, though theories change, the basic facts of the universe do not. Theories are important for the part they play in helping us grow nearer to the understanding of reality. Recognition of the possibility that beliefs common to a plurality of men may reflect the fundamental properties of the universe is not devoid of logic. How can the human mind not reflect the nature of its own basic composition, even though this reflection or translation into thought and word must be forever limited. May not the inspired atomic hypotheses of a Dalton as well as a Democritus owe something to the fact that both assumptions came from minds that were themselves made up of atoms. Are not our more modern concepts of mass and energy equally rooted in measurement and mind.

The hope of science lies in our ability to approach an unchangeable truth by whatever new tools our minds can use. In this search for understanding only the mind that can learn has any chance of success. The hope of our human society lies in our ability to recognize and to accept new pathways of progress. It is our duty as scientists to help spread this leaven in the world. For unless man can outgrow the limits of his present self, he is done for. The inflexible mind will crack; the inflexible society will be destroyed.

The 38th AIC Annual Meeting

Three Professional Sessions:

(1) Washington the Information Center of the Nation (May 11)
(2) Steps Being Taken in Washington to Improve the Quality and Supply of Chemists (May 11)
(3) Science and Government (May 12)

The Annual Meeting Committees are:

General Chairman, Dr. Clem O. Miller, National Academy of Sciences-NRC, 2101 Constitution Ave., N.W., Washington 25, D.C.
Program: Dr. Miller with AIC president, Dr. Milton Harris.
Arrangements, Dr. Alexander P. Mathers, Dr. Anthony M. Schwartz.
Publicity, Dr. Carl J. Wessel.
Registration, Paul E. Reichardt.
Treasurer, Robert C. Watson.
Ladies' Committee, Mrs. Madeline M. Henderson.

Special AIC Announcements

The 1961 Gold Medal

Dr. Alden H. Emery, F.A.I.C., executive secretary of the American Chemical Society, has been chosen to receive the 1961 AIC Gold Medal. He is cited for administering his ACS office with exceptional intelligence, tact, vision, and responsiveness to the desires of the members. The Medal will be presented during the 38th Annual AIC Meeting to be held May 11-12, 1961, at the Statler Hotel, Washington, D.C.

Dr. Price to be Honored

Dr. Charles C. Price, F.A.I.C., Blanchard professor of chemistry, and chairman of the Department of Chemistry, University of Pennsylvania, Philadelphia, Pa., will receive the Honor Scroll of the Philadelphia AIC Chapter, Feb. 2, 1961, at the Penn-Sherwood Hotel, Philadelphia.

New Secretary for Midwest Chapter

Richard Radford, c/o Seidlitz Paint & Varnish Co., 18th & Garfield Sts., Kansas City, Missouri, is now acting secretary of the Midwest AIC Chapter, since Raymond Dalter, former secretary, has left the Kansas City area.

Our New Cover

We hope you like the new style of cover which first appears on this issue of THE CHEMIST. It was especially designed for us by Richard L. Moore of W. R. Grace & Co., chairman of the AIC Committee on Public Relations. Your comments will be welcome.

New Members of the Advisory Board

Three new members have been appointed to the Advisory Board of THE CHEMIST, to replace retiring members, Dr. Lawrence Flett, Dr. Richard L. Kenyon, and Dr. William J. Sparks.

The new Advisory Board members are: William Q. Hull, F.A.I.C., associate editor, ACS Applied Journals; Dr. Sidney D. Kirkpatrick, Hon. AIC, consulting editor, McGraw-Hill Book Co., Inc., and Dr. Wayne E. Kuhn, F.A.I.C., former AIC president.

New Chicago Chapter Chairman

Chairman-elect David W. Young, F.A.I.C., of Sinclair Research Labs., 400 E. Sibley Blvd., Harvey, Ill., is now acting chairman of the Chicago Chapter, completing the term of Dr. Austin B. Wilder, as chairman, who was transferred by E. I. du Pont de Nemours & Co. from Chicago to Wilmington, Del.

To All AIC Members

In March, nomination ballots will be mailed to AIC members. The names chosen on this ballot will appear on the election ballot to be sent out in April for the election of a president-elect and three councilors. Please send in your votes promptly.

The United States Patent System

Our Incentive System for Material Progress

P. F. Casella

Manager, Patent Department, Hooker Chemical Corporation, Niagara Falls, N. Y.

(Condensation of a paper presented at the Oct. 4, 1960, meeting of the Niagara AIC Chapter, at Niagara Falls, N. Y.)

THE stimulus to the early American pioneer who made our country great was the grant by the Government of title to the land, to the timber, to the minerals. The stimulus to our modern pioneer in science and technology is in the form of letters patent to the new inventions he has created.

If we are to progress, there must be an incentive. Abraham Lincoln said that "the patent system added the fuel of interest to the fire of genius." Our patent system has epitomized a fundamental characteristic of our free enterprise system of rewarding the individual contributor for service to humanity, as contrasted with the way of life under the Communist States. Our patent system is, to the individual inventor, the incentive to invent; and to the corporation patentee, the incentive to invest.

But changes have taken place in the U. S., in how we have come to operate under the Constitutional provision of Article 1, Sec. 8, which is the fundamental basis for our incentive or patent system.

Changes have also taken place in Russia, in that they have come to operate an incentive system for material progress—which for their purpose might beat us at our own game.

We face the question of whether we are losing ground in the race with Russia in science. Can this be because our patent system is not being used, by those who have the responsibility for operating under it, to its true and original intent?

As a patent practitioner, I am convinced that we have the right mechanics for granting patents. Certainly there are details that can be improved. But, basically, I feel that we must get back to making the patent system the incentive system our founding fathers intended it to be.

The parties responsible for operation under our patent system are primarily our Government and the individuals using it, whether they be private citizens or corporations. In the fields of science, those with the greatest responsibility are our Government and the corporations with large research endeavors.

U. S. corporations spend about $5-billion each year on research and development which may lead to new inventions. Well over half of all patents are granted to corporations. In the field of chemical patents, about 30% of the patents issued go to individuals. Corporations and the Gov-

ernment are issued about 70%. Government ownership is perhaps less than 10% of this 70%, but our Government keeps free licenses in any patents obtained which involve Government money.

Government's responsibility is not only in (1) the administration of the U. S. Patent Office, but also in (2) its actions through Congress and the courts on what interpretation shall be placed on issued patents, and (3) its responsibility as an employer, directly or indirectly, of vast numbers of scientists working to invent under the Government's research and development budget.

If we analyze what has happened recently insofar as Government's responsibilities are concerned, we find that a large number of legislative and judicial actions on patents have in effect imposed limitations on the grant given by letters patent held by individuals or corporations.

A good statement of what is the grant given by letters patent is:

> The patent law confers on the patentee a limited monopoly, the right or power to exclude all others from manufacturing, using or selling his invention . . . He may grant licenses to make, use or vend restricted in point of space or time, or with any other restriction upon the exercise of the granted privilege, save only that by attaching a condition to his license he may not enlarge his monopoly and thus acquire some other which the statute and the patent together did not give.

Antitrust laws or judicial decisions which have limited the patent grant fall into several general categories, best described as limitations on the fundamental rights given to a patentee; for example, limitations on the right

(1) to license or not to license.
(2) to fix a royalty.
(3) to prescribe a sales price for the licensed invention.
(4) to limit the quantity of articles or percentage of the whole output, which the licensee may manufacture, use or sell.
(5) to limit the territory in which licensee may operate under the patent.
(6) to prescribe the purpose or field of use for which the licensee can utilize the invention.
(7) to determine the number of licensees and select at his discretion those to whom licenses shall be issued.

In each of these categories, there have been limitations imposed on the patent grant by the interpretation of our antitrust laws. Many may have been proper in the specific cases where a misuse of the patent was involved, but when these limitations are applied across the board or extended, we have a substantial dilution of the incentive to our patentees, especially if they are large corporations.

There is current discussion on limiting the patent monopoly even further. Senator Kefauver's Senate Antitrust Committee says the drug industry is charging too much for drugs covered by patents. Some advocate that a patent should not be granted on drugs, or if granted, they should be subject to compulsory license to any interested parties. As these poli-

cies become enacted insofar as drugs are concerned, we can be sure they will overflow into chemicals and processes, then articles and machines, etc., thereby diluting even more the rights of a patentee and the incentives to invent and to invest.

Our Government has imposed restrictions on patents by way of legislation in the fields of atomic energy and space technology; so much so, that it is unlawful for a private citizen to own certain inventions in these fields. Furthermore, our Government expends large sums of money in research and development in science and technology other than AEC or NASA, either by direct employment of scientists or by contracting with research organizations. The scientists employed directly by our government realize no incentive, other than their salaries, to create and invent. Those working in research organizations on Government contracts fare no better, in that neither they nor their organizations can realize the true rights of a patentee, because the Government imposes licensing conditions on inventions made on its budget.

Under the Space Act, NASA takes title to any inventions made in the performance of any work under any contract in aeronautical and space vehicles, manned and unmanned, together with related equipment, devices, components and parts. Furthermore, the administration has complete control of any invention filed in the U. S. Patent Office having any significant utility in the conduct of aeronautical or space activity. Thus, an applicant for a patent in space technology may be required to file a statement under oath setting forth that he did not derive the invention as a result of some association with a Space Agency. If the administrator disagrees, he requires the patent issue to NASA. It is true that the Space Act has an awards' provision to take the sting out of taking the patent over. We hope this will be administered properly, fairly, and widespread.

Under the Department of Defense (Army, Navy and Air Force policy) the Armed Services Procurement Regulations control patents arising out of Government research. Basically, it has the most liberal patent provisions of any of our Government agencies, in that it works on the concept of taking only what is needed, namely, a Government free license, leaving the rest of the patent rights with the contractor. However, even this policy is a sufficient dilution of the incentive system so that most corporations have lost the incentive to invest on Government projects, and many corporations do not want to take Government contracts.

A new Government agency, the Department of Health, Education and Welfare, announced in 1958 that its contractors developing drug or other chemical agents would retain patent rights subject to the right of

the Surgeon General to license others, if necessary, in the public interest. Here we can expect the complusory licensing feature to be applied. These are only a few of the Government agency policies (restrictions) on inventions and patents. There are others . . .

Our Government as a direct employer of scientists provides no substantial incentive to those creative men to go over and beyond the calling in work and effort with the hope of realizing a monetary award for a meritorious contribution. There are, however, a few isolated cases of inventors being rewarded. Enrico Fermi received posthumously an award of several hundreds of thousands of dollars from the AEC. Paul Goddard, early space pioneer, received, many years after his death, the largest single Government award—$1,000,000. Recently $100,000 was awarded for an invention used in aircraft, though it required a special act of Congress. Such awards must be disseminated down through the ranks to the inventors of smaller contributions . . .

Because so many inventions in science can only be made in the great research centers of our corporations, there can be a tendency for the incentive to invent to become lost, unless these corporations provide an incentive to their inventors which is significant recognition for their contributions.

Some of our companies have recognized their responsibility for maintaining our heritage in this incentive or patent system. Other corporations, responsible for a good part of our country's research, have under study mechanisms for removing complacency among their scientists, thus minimizing mediocracy, all for the good reason of realizing more growth for themselves, their people and their country. More of us must do likewise.

It is obvious that one of the original intents of Article 1, Sec. 8, of our Constitution to provide awards to inventors has not been operated to the fullest advantage by the two parties having the greatest responsibility for this—the Government and the corporations.

What are the Russians doing? The Russians have discovered the simple fact that you cannot dictate to men and tell them to invent. You cannot tie a man down and force him to be creative. A significant incentive must be provided. At first, by a law of June 30, 1919, the nationalization of all inventions was decreed. In effect this abolished the exclusive right to make, use and vend the invention. Then the patent law of Sept. 12, 1924, adopted with the advent of the new economic policy, reinstated a patent system somewhat similar to that in Germany. The law of April 9, 1931, introduced an entirely new system of certificates of authorship for inventions, parallel to patents. In March, 1941, another law again nationalized

inventions but eliminated in most cases the possibility of a patent, and certificates of authorship with monetary awards came more into play. Then in April 24, 1959, the latest law continued, in effect, the author's certificates with liberal provisions for remuneration and more assurances.

So the Russians have recognized that a monetary award is a satisfactory basis for spurring creativeness and rewarding scientific contributors, and it is not unusual for monetary awards equivalent to $20,000 to be spread among the contributors of inventions, on a much wider basis than any similar application here, either by our Government or by corporations. Then too, the Russians have elevated the status of their scientists to the point where the combination of monetary award and professional status has produced accomplishment in science that the whole world recognizes.

I suggest that each member of the AIC become interested in the responsibility of our Government and our corporations for preserving our incentive or patent system.

Our Government must keep the patent to the corporation as the incentive to invest, and our corporations must pass on to their employee-inventors the incentive to invent. I suggest that you take the means available to you for seeing that the patent system is operated as was originally intended, so that our American heritage in the new frontiers of science and technology may prevail in the face of competition from the Communist States. This means our survival as the world's leaders in science and technology.

About AIC Members

Dr. Glenn T. Seaborg, Hon. AIC, chancellor of the University of California at Berkeley, has been named by President Kennedy to be chairman of the Atomic Energy Commission.

Dr. Foster D. Snell, Hon. AIC, announces that Foster D. Snell, Inc., New York 11, N. Y., has acquired Calkin & Bayley, Inc., industrial consultants. The firm will be operated as the Calkin & Bayley Division at its present offices in The Chemists' Club, New York 17, N. Y. George T. Bayley will act as vice president in charge of the division.

Emerson Venable, F.A.I.C., and Dr. Oscar F. Hedenburg have formed a new consulting firm, Hedenburg and Venable, Pittsburgh 32, Pa. Dr. Hedenburg, inventor of piperonyl butoxide synergist used with pyrethrins, has left Mellon Institute to join Mr. Venable in research, development and consultation in organic synthesis and insecticides.

Dr. Stephen D. Bruck, F.A.I.C., has joined the staff of the National Bureau of Standards, Washington, D.C., as project leader.

(*Also see pages* 56, 61, 67 *and* 71)

Professional Goals

How would you rate, in order of importance, the following goals of your profession?

- ☐ **Progress as an individual.**
- ☐ **Creative work**
- ☐ **Adequate salary**
- ☐ **Service to society**
- ☐ **A steady job**
- ☐ **Duty to profession**

Now read the following discussion, published in *Engineering Employment Practices Newsletter* (Vol. V, No. 6. June 1960):

What Price Professionalism

Ethical standards dictate that the goals of professionals should rate as follows: (1) Service to society. (2) Duty to profession. (3) Progress as an individual. (4) Creative work. (5) An adequate salary, and (6) a steady job.

However in a survey taken of 1300 technical employees regarding personal goals (reported by J. J. McKetta of the University of Texas in the *Petroleum Refiner*) the following order of importance was listed: (1) Progress as an individual. (2) An adequate salary. (3) Creative work. (4) Steady job. (5) Duty to profession, and (6) Service to society.

While McKetta feels the lack of personal relationships with clients prevents the practice of engineering from ever being as highly regarded as medicine and law, the professional standing of engineers could be vastly improved if the majority took a more active interest in their professional and technical societies and if they paid more than lip service to public service.

As an example of the latter, McKetta cites the development of the medical profession from the early 1900's, when a great number of medical schools were little more than diploma mills run for the benefit of the teachers, to the present, when the medical profession has closed its ranks against selfish behavior and climbed to the top in public opinion surveys of the professions.

However, McKetta also points out that professionalism, especially in industry, is a two-way street. Industrial firms that want professional level performance from their engineers must establish professional level employment practices. This can be done, says McKetta, through adoption of the standards outlined in NSPE's "Criteria for Professional Employment of Engineers." When the industrial engineer takes the stand that "If you want a man to act like a professional, you must treat him like one," the company is likely to reply, "If a man wants to be treated like a professional, he must act like one." To achieve true professionalism, concludes McKetta, the two parties must swap attitudes and proceed accordingly.

The Public's Responsibility To Scientists

Dr. Jack P. Montgomery, Hon. AIC

Professor Emeritus of Organic Chemistry, The University of Alabama, University, Ala.

RESPONSIBILITY: A much embracing word involving ideas of appreciation, obligation and the willingness, or ability, to pay or render in kind. Thus it is a highly ethical word to be thought of along with debts to be paid in honor and not by compulsion.

The awareness of the General Public of its obligations to any one group or class within itself depends upon the group consciousness at the particular point in social evolution which has been reached. That there are responsibilities of the General Public to its constituent parts is obvious, but whether, at the present time, there is alertness, or even awareness, of this is questionable.

Within the past half century we have seen the sense of wonder almost disappear, even to the extent that the marvels of science, engineering, and technology are taken as a matter of course. In child-like complacency we have seen our standards of living revolutionized, modes of entertainment manufactured for us, our tastes in literature changed by the profusion of newsstands, with consequent lowering of some moral standards, and so on to a list rather alarming to numerate. Appreciation and obligation are becoming museum pieces in whatever world of thought remains to many of us.

Thus Mr. General Public somehow feels that as he pays his installments on house, appliances, TV, car, he is paying all of his debt. How often does he think of the dedicated lives to whom he owes so much? The general ideas which he has of science are quite vague. When he reads, "Science has discovered" or "Engineering is the basis of almost miraculous construction," his reaction is "Now THEY have done it," it is hardly ever "WE."

In the matter of recruiting potential scientists he feels little responsibility, since he is in the habit of leaving to each constituent group of his society its own advancement, without thought to the good or harm it might be to him. He feels no more responsibility toward science and the recruiting of scientists than he does in the fields of law, medicine, the ministry, or business. His attitude is a "They" rather than a "we" obligation.

The responsibility of both scientists and laymen to science can hardly be measured in easily stated terms, since there are so many imponderables involved, but to seek, know, and advance the truth will always be paramount. History and many present conditions go far to show the neces-

sity of this. Science has a two-fold function, to reveal the truth and, concurrently, to awaken and encourage seekers for further truth. Pasteur, just after his amazing work on the phosphoric acids, said "I have loved science so much all my life that this makes my heart throb." Many of us have experienced similar emotions, even those of us whose field has been to learn and not yet blessed enough to do.

Even in learning we have seen many theories, valuable at one time as real guides for a part of the way, discarded or greatly modified. But there remain a multitude of accomplishments by the disciples of those theories. The complacency which we now fear is that of the General Public, content in the enjoyment of what we have. But for those destined to carry on, and for the rest of us who so greatly appreciate them and their additions to what we now regard as truth, there are in store many "heart throbs," though disappointments may for a while defer this.

Referring to the communication of Dr. Otto Eisenschiml (THE CHEMIST, Nov. 1960, p. 415), it is the writer's opinion that for anyone, either scientist or layman, to "lure" young people into our profession would not only be a great mistake but an unforgivable injustice to the one so recruited. Instead of "lure" would it not be better to present a definite "allure?"

Do we have to turn from the progress already made, and now greatly in the making, in our schools and colleges? We have reason to believe that the allure of science is being responded to more and more by our students in sincere ways tending toward intense dedication, not only as knowers of the truth, but, *Deus volente,* as seekers and doers. Foundations and corporations, whose funds have come largely from the technological exploitation of science and engineering, are pouring money into our colleges, resulting in the greatest opportunities in our history for further advancement of the students now beginning to be dedicated to science and engineering.

The General Public can have a part in recruiting, and thus fulfill some of its responsibility to scientists, by showing greater interest in and support of our high schools, from which come the recruits the colleges require. The more critical of us would suggest a change of the frills into more lasting fabrics, but this is not a popular idea. We hope that the General Public will rally to a greater extent in financial support and that the high school science departments may get some of the skimmings, even something heady and sustaining. Some of the more hopeful signs now are the responses of the general public to Junior Academies of Science and their truly amazing exhibits of their projects. While many of our citizens are

somewhat indifferent to these accomplishments, the leaven is working and an increasing number of adults find their sense of wonder reawakening.

The General Public is moving, though slowly, to a realization of its responsibility to scientists and of its part in recruiting. Gradually the importance of scientists and engineers as truly professional groups is being recognized. The efforts of THE AMERICAN INSTITUTE OF CHEMISTS and similar groups are beginning to pay off. When this is more fully realized, we may well expect some segments of the general public to be of great service in the recruiting.

Catalysis and Human Health

(An excerpt from the address of Dr. Eugene J. Houdry when he accepted the 53rd Annual Perkin Medal of the American Section of the Society of Chemical Industry.)

IN 1836, Berzelius discovered a new phenomenon in chemistry which he termed "catalysis," and expressed the thought that catalytic reactions might take place in plants and animals.

Today, for many of the pioneers in this fancy branch of chemistry, catalysis is the chemistry of life, the human body is the supreme catalytic machine, and as a consequence, medical and industrial research are closely related.

For instance, in industrial machines we bring fuel and oxygen to be catalyzed and produce energy. In doing so . . . the catalyst ages, and in order to maintain its efficiency it is necessary to give it a slight addition of oxygen.

From medical research we know that in the . . . living cell the bloodstream brings food and oxygen to be catalyzed and produce energy. Thus . . . why not the conception that the extremely capable and active catalysts of the human machine could be kept young by a slight increase of the oxygen content in the blood?

On this theory, I have breathed during the night for the past 27 months pure air enriched with oxygen. The following results have been observed: (1) Better appetite. (2) No variation in weight (except a gain when away from the treatment, which disappeared gradually after return to my experiment). (3) No letdown in activity. (4) More energy.

. . . I present these findings to you merely as results of a carefully-conducted and recorded experiment.

The Working Chemist and Professionalism

(A Report)

Dr. Max Bender, F.A.I.C.

American Cyanamid Co., Bound Brook, N. J.

A panel discussion, "The Working Chemist and Professionalism," was held Nov. 21, 1960, at a meeting of the Lackawanna Subsection of the North Jersey ACS in conjunction with the Professional Affairs Committee of the North Jersey ACS, at Fairleigh Dickinson University, Madison, N. J.

The panelists were Dr. Sidney M. Cantor, F.A.I.C., of Sidney M. Cantor Associates; Dr. Herbert H. Fox, senior research chemist (bench chemist), Hoffmann-LaRoche, Inc.; Prof. William Rieman III, F.A.I.C., of Rutgers University, and David A. H. Roethel, manager, professional and government relations, American Chemical Society. Dr. Max Bender, F.A.I.C., senior research chemist (bench chemist), American Cyanamid Co., was moderator.

All discussion was lively, to the point, and highly stimulating. Basic issues involving the professionalism of the working chemist in industry were discussed frankly and with a minimum of vagueness. Discussion high lights included:

(1) Professional status may be considered as composed of:

(a) Social recognition—in the community and by the public.
(b) Prestige among immediate colleagues in one's laboratory and company and in the chemical or scientific population of the country and the world; prestige with one's management.
(c) Financial recognition.

Social recognition in the community was referred to as not requiring much attention. Chemists usually have this, especially if they are interested in community affairs. However, recognition by colleagues and management was considered the basic desire of the chemist in striving for status.

(2) The matter of the usefulness of a chemist as a function of his age. Does his peak performance occur, generally speaking, during his youth, or does it occur in his later years after he has had the benefit of the experiences of his career? Discussion acknowledged the value of years of experience. The performance of a professor in a university is usually

recognized as improving with age.

(3) Various factors militate in the direction of restraining the "worth" of a chemist in industry as he ages, especially into the "over 40" region. There is his own reluctance to make a change due to pension plans and other fringe benefits, the establishment of his home and himself in his neighborhood, and his establishment in his company with years devoted to areas of study and research and familiarization with the company organization itself. Also the attitude of the company is often to promote from within and thus it may have its doors open mostly to young blood. The company may find it difficult to bring in older people because of pension and insurance systems. Accordingly, there is less likelihood for cross-fertilization via people with experience from another area.

(4) The caliber of students entering chemistry was reported to be rather high and not deteriorating over the years.

(5) Comparison was made between the industrial working chemist and the university professor. The professor may be regarded as a true professional. The situation of the industrial chemist could be improved by his having more opportunity to self-regulate his activities. Reference was made to a 2-year study released by the Industrial Relations Section of Princeton University, which had been conducted by Prof. Marcson, acting chairman of the Department of Sociology of Rutgers:

> "Industry is going to be involved increasingly in the use of scientists and of high-talent professional people. Therefore, the most important problem facing American industry is the adequate management of professional staffs of scientists and engineers. Because of their education and training, scientists do not easily accept the goals of the traditional business enterprise. Instead they tend to resist the exercise of 'executive authority' by corporate managers. They are more interested in their profession than in the corporation and thus they are oriented toward a system of 'colleague authority,' which is more characteristic of the university community. The managers of laboratories, themselves usually scientists, are thus faced with difficult problems. They must understand and speak two languages. As supervisors, and participants in the broader decision-making processes of the corporation, they must understand and accept the goals of the enterprise. As scientists they must demonstrate their respect for the professional goals and ideals of their junior associates. The solution lies in the proper blending of the principles and concepts of 'executive authority' which is one of the most complex tasks facing American industry in this age of rapid technological advance."
>
> —*Daily Home News*, New Brunswick, N. J. (Oct. 19, 1960)

It might be worthwhile to "nationally" classify industrial scientists according to their experience and maturity, much as is the case with University professors.

(6) The American Chemical Society is being drawn more and more into regard for the professional problems of chemists and chemical engineers. But there are limitations because it is chartered as a scientific

and educational, i.e., a "learned," society. What will eventually happen in the face of mounting "professional problems pressure?" Will the ACS give up its charter so as not to be limited in its professional considerations, much the same as the American Medical Association? Or will this be handled through another organization which would be capable of handling the task in hand. Reference was made to the American Association of University Professors as being professionally effective. In this connection there was the question as to whom such a society would serve. Men in management with degrees are certainly chemists, but are they doing scientific work?

Questions were raised as to whether a chemical professional society could limit (by raising qualifications and standards) the number of people entering the profession much the same as the AMA, so that the chemist would have more market value. While references were made to the AMA as a union, it was brought out that it upheld the individuality of its members as professionals, which is not the case of the typical labor union.

(7) The subject of legislative action in relation to professional status was considered with due respect to licensing action. The reference was "Canadian Chemists Ponder Laws on Status" (C&EN, Nov. 14, 1960, p. 34), wherein it was mentioned that there was growing activity aimed toward legislative action in behalf of professional status. The article referred to lack of adequate status of the chemist in courts of law, lower civil service grades for chemists compared with some other professionals, and the chemists own "lack of power to control his work in industry and hospitals." Licensing examinations, etc., should be conducted by the chemists themselves and not by politicians.

(8) Questions were raised about giving courses on professionalism at universities. This is being done only to a minor extent. While there was some comment that this was not needed, there were opinions that chemists entering industry would be the better for having had concrete information on the subject of professionalism.

The American Oil Chemists' Society, 35 E. Wacker Drive, Chicago 1, Ill., will hold its 34th annual meeting, May 1-3, at the Sheraton-Jefferson Hotel, St. Louis, Mo.

Professional Recognition — A Report to Management

(An excerpt from the Bulletin of the Association of Professional Engineers of Ontario, 236 Avenue Road, Toronto, Ontario, Canada).

IT has been established that job-switching by engineers is frequently the result of frustration, which, in turn, is usually motivated by lack of professional recognition on the part of the employer. Management, in many cases where job-changing is evident, has not provided a climate in which engineers can work happily and effectively while still retaining their professional attitudes. The provision of an atmosphere to encourage professional growth would go a long way towards dispelling frustration. An engineer with the "feel" of responsibility and pride in his profession is a greater asset to his employer than is a frustrated man.

A climate that will encourage and nurture professional growth among engineering employees will include:

—recognition of professional engineering as creative work.
—breakdown of a job to ensure that an individual is given the feeling of responsibility for a specific part.
—acknowledgement of achievement by the use of the professional seal, or by the signature of the individual on a specific part for which he is responsible.

This is the core around which a programme may be built. It embraces the factors that are encountered in daily job routine. However, there must also be long-term planning to go beyond this core and provide professional recognition in fact.

Such long-term planning would include:

—facilities for group discussions.
—employer-sponsored post-graduate courses for professional engineers who display a particular aptitude; the type of advanced training which would benefit both employer and employee.
—expansion of the effectiveness of non-graduate technicians and assistants by encouraging professional engineers to help educate them.
—the encouragement of membership in professional and technical organizations, and submission of papers to technical publications.
—encouragement of the exchange of ideas through management-engineer conferences.

Proper use of engineering personnel is a two-way street. It can be improved by good communications both ways, between management and engineers. Top management know that professional engineer employees do better work when kept advised of long-term planning and company policy.

Communications should ensure that the ideas of top management reach the individual engineers and that the engineers' ideas reach a top level. Communications, like filing systems, require constant checking.

The use of the "Patent Waiver," all too prevalent in this country, is not an inducement to creative thinking. If such a document is necessary

because of the need to protect systems or formulae, then the Company's solicitor should be required to give an equal amount of thought to the protection of employer and to the protection of inventor.

Engineering is not simply a profession in which facts are collected and the answer falls into place; neither is it one in which the solution of a few mathematical formulae is sufficient to produce a new device. It is a profession calling for the utmost in ingenuity, creative ability and sound application so that the best may be made of existing scientific information.

Perhaps the greatest single benefit of an engineering course is the mental training received in it. The professional engineer has been trained in analytical thinking. If he is given an opportunity to use this training to the full, the employer who buys his professional service will benefit, the engineer will benefit, and in the final analysis the nation will benefit.

Ralph Weehsler, F.A.I.C., has retired from Nopco Chemical Co., Harrison, N. J., after 40 years of service. He was honored at a testimonial dinner by more than 200 employees, September 8, at the Downtown Club, Newark, N. J. He joined Nopco as a chemist in 1921, advancing to president in 1955, and to chairman of the board. He will continue as board chairman.

Dr. J. V. N. Dorr, F.A.I.C., president, Dorr Associates and partner in Dorr Consultants, New York, N. Y., has been elected to the Board of Trustees of the Arcadia Institute for Scientific Research, Inc.

Lewis E. Harris, F.A.I.C., former director of the pharmaceutical division and member of the board of directors since 1954, is now president of Norden Laboratories, Inc., Lincoln, Nebraska.

Dr. Carl S. Marvel, Hon. AIC, is now with the Department of Chemistry of the University of Arizona, Tucson, Arizona.

Reasons for Refusal of NIH Grants

An Amazing Revelation

Dr. Solomon S. Dowryman
New York, N. Y.

(This paper came without the author's title or connection, but the vulgate into which he has translated the reasons for refusal of grants indicates that he is not accustomed to professional language but must interpret it somehow. *Science* has given permission to reprint the table of Shortcomings. Those familiar with professional language may skip the vernacular inserted in the second column.)

THIS year the National Institutes of Health distribute $229,505,503 to researchers. The basis for award and for refusal of these grants has been somewhat obscure until November 1960 when Dr. Ernest M. Allen, Chief, Division of Research Grants, published an article in *Science* (Nov. 25, 1960, p. 1533) setting forth in detail the reasons for refusal of awards, and their relative frequency expressed in percentages.

In order to make this interesting document more generally known, and to increase its utility for chemists who may desire to improve their chances for approval of applications to NIA for support, the following reproduction of Dr. Allen's Table is made, along with a translation of its specialized nomenclature into the vernacular:

Table 1. Shortcomings found in study-section review of 605 disapproved research grant applications, April-May 1959. All percentages are to the base number 605.

No.	Shortcoming *Class I: Problem* (58 *percent*) **Dr. Allen's Definition**	*Translation to Vernacular*	%
1.	**The problem is of insufficient importance or is unlikely to produce any new or useful information.**	Nobody in the study group is interested in this.	**33.1**
2.	**The proposed research is based on a hypothesis that rests on insufficent evidence, is doubtful, or is unsound.**	This guy's cockeyed.	**8.9**
3.	**The problem is more complex than the investigator appears to realize.**	Why does this chump waste our time with this kind of stupid application? Our lab has worked on this several years and we haven't gotten anywhere.	**8.1**
4.	**The problem has only local significance or is one of production or control or otherwise fails to fall sufficiently clearly within the general field of health related research.**	We suspect this man is working for a drug company on the side.	**4.8**

5. The problem is scientifically premature and warrants, at most, only a pilot study.	We were planning to put in an application on this ourselves next year.	3.1
6. The research as proposed is overly involved, with too many elements under simultaneous investigation.	We're confused too. We can be just as confused for less money.	3.0
7. The description of the nature of the research and of its significance leaves the proposal nebulous and diffuse and without clear research aim.	What does he want to do? Do basic research?	2.6

Class II — Approach (73 *percent*)

8. The proposed tests, or methods, or scientific procedures are unsuited to the stated objective.	I never would have thought of that! One of us must be slipping.	34.7
9. The description of the approach is too nebulous, diffuse and lacking in clarity to permit adequate evaluation.	I don't understand what he's talking about. Why can't he write plain English?	28.8
10. The over-all design of the study has not been carefully thought out.	Doesn't he know he is supposed to get support after the work is done, not before.	14.7
11. The statistical aspects of the approach have not been given sufficient consideration.	There are three degrees of lies: lies, darned lies, and statistics.	8.1
12. The approach lacks scientific imagination.	I could have thought this one up myself.	7.4
13. Controls are either inadequately conceived or inadequately described.	Why aren't all his patients litter mates?	6.8
14. The material the investigator proposes to use is unsuited to the objectives of the study or is difficult to obtain.	I tried to get some and they wouldn't give it to me.	3.8
15. The number of observations is unsuitable.	They're either too old or too young.	2.5
16. The equipment contemplated is outmoded or otherwise unsuitable.	How do we expect to stimulate instrument manufacturers? He refused to pay his dues to the ISA last week.	1.0

Class III — Man (55 *percent*)

17. The investigator does not have adequate experience or training, or both, for this research.	He isn't one of my pupils. Why did he have to train in Chicago?	32.6
18. The investigator appears to be unfamiliar with recent pertinent literature or methods, or both.	He hasn't read the definitive article which I wrote in 1920.	13.7

19. **The investigator's previously published work in this field does not inspire confidence.**	We've been fighting about this in the Federation every year.	12.6
20. **The investigator proposes to rely too heavily on insufficiently experienced associates.**	We don't want to give this to a women's college.	5.0
21. **The investigator is spreading himself too thin; he will be more productive if he concentrates on fewer projects.**	He has more money than I do already.	3.8
22. **The investigator needs more liaison with colleagues in this field or in collateral fields.**	The investigator is not spread thin enough to disqualify under No. 21.	1.7

Class IV — Other (16 *percent*)

23. **The requirements for equipment or personnel, or both, are unrealistic.**	What does he think he's doing, building an empire? Or getting a well equipped laboratory?	10.1
24. **It appears that other responsibilities would prevent devotion of sufficient time and attention to this research.**	Does he think he can teach, do outside consulting and argue with Purchasing all at the same time?	3.0
25. **The institutional setting is unfavorable.**	Einstein in the Swiss Patent Office.	2.3
26. **Research grants to the investigator, now in force, are adequate in scope and amount to cover the proposed research.**	Can't he think of something new to spend our money on? We used a news release on this last year.	1.5

Speaking at a conference of the National Fire Protection Association of Boston 10, Mass., Major Carroll E. Shaw, deputy state fire marshal of Connecticut, stated:

"Much too little thought is given to the transportation of highly dangerous chemicals moving daily through our states. Many of them are newly formulated materials which need an expert chemist to rate their hazards. Yet present ICC regulations require in many cases only that the truck carry a sign marked 'Dangerous' or 'Flammable' followed by the name of the product—a name which often tells nothing to the layman. Biggest weakness in ICC requirements is that any cargo less than 2500 pounds doesn't have to be marked at all . . . The fire service is constantly being called out to fight fires in trucks which from their appearance give no indication that they may be carrying dangerous commodities. They find sometimes to their dismay that they are fighting some pretty hot stuff."

This Has Been Said About U. S. Education, Too

(An excerpt from *Proceedings of the Royal Australian Chemical Institute*, Vol. 27, No. 9, p. 361.)

MOST of us are now familiar with the many problems facing Australian universities at present—shortages of money and staff, overcrowded buildings, high failure rates, public and political apathy towards the universities' problems, the reluctance of students to undertake higher degrees studies, quota systems, and so on.

The universities are also criticized because "They are not 'universities' in the real sense but only factories for producing technical specialists who care for nothing except their specialty."

Certainly, one gets the impression from A. P. Rowe's recent book (*If the Gown Fits*, Melbourne University Press, 1960) that many students grind their way through courses on a "9 to 5, live-at-home-with-mother" schedule, firmly blinkered to avoid all possibility of enjoying any form of corporate student life or non-technical interest, and positively avoiding any outside activity, even the reading of an occasional novel, that might prejudice their chances in the annual examinations. One student in Rowe's book even admitted that "Yes, he knew what the Vice-Chancellor meant, and he was going to educate himself when he left the university" . . .

The Scientist Retaliates

(Excerpts from "The Culture Vulture," an editorial in *Chemistry & Industry*, publication of The Society of Chemical Industry, London, Sept. 13, 1958.)

THIS idea of a wider educational background seems to be associated with the subject of culture values. Many people take it for granted that a nodding acquaintance with Moliere is more respectable than a detailed knowledge of our most practical inheritance from Mendeleev . . .

Now it happens that most graduates in science from British universities undergo practical tests on their subject. For example chemists are required to isolate and identify substances. Do the arts graduates go through a similar practical training? Are they examined in their practical ability? Perhaps three hours would be a fair time to compose a sonnet, given the subject? For a full day of practical examination we suggest the composition of a sestina and a tanka. Already it might seem to the chemist that we are letting our arts graduate off too easily . . .

For some reason or another it is argued today that scientists tend to

be lacking in culture. On the whole it is the scientists who are adding to our culture, yet it is suggested that they should take so-called cultural subjects in their examinations; on them is the blame and the burden.

Might it not be suggested that the great majority of our arts graduates are illiterate? By all means let them advocate cultural subjects for scientists—even science questions for arts men, but is it really creative?

We shall begin to believe that arts men are serious about culture when instead of preserving our heritage they accept the obligation to extend the limits of our culture by practical creation. For too long the high spots of university teaching in the arts subjects have been concerned with criticism, which in turn has led to the sterile contemplation of a vast navel of existing texts and texts about texts. Like Shelley, our vote is for those "whose transmitted effluence cannot die."

Dr. Peter J. W. Debye, F.A.I.C., Nobel laureate and emeritus professor of chemistry, Cornell University, will receive the William H. Nichols Medal of the New York Section of the American Chemical Society, at its meeting March 10, 1961.

The Ninth Detroit Anachem Conference, sponsored by the Association of Analytical Chemists, will be held in McGregor Memorial Conference Center, Wayne State University, Detroit, Mich., Oct. 16-18, 1961. The Anachem Award for Outstanding Achievement in Analytical Chemistry will be presented to **Dr. I. M. Kolthoff,** F.A.I.C., of the University of Minnesota. The Program Committee is soliciting papers for this conference. The deadline for abstracts of the papers is April 3, 1961. For information, P. N. Burkard, Program Chairman, 9th Detroit Anachem Conference, Wyandotte Chemicals Corp., Wyandotte, Mich.

Samuel Schenberg, F.A.I.C., of the New York City Board of Education, presided over the Conference on Scientific Manpower, held in connection with the AAAS meeting in New York, N. Y., on Dec. 27.

Dr. Sidney M. Cantor, F.A.I.C., has been appointed vice president of research of the DCA Food Industries, 45 W. 36th St., New York, N. Y. Since 1953, he has been a consultant at Ardmore, Pa.

The Practical Accomplishments of Man

Dr. Stewart J. Lloyd, F.A.I.C. (1881-1959)

(Excerpt from a talk presented by the late Dr. Lloyd, AIC Charter Member, when he received the Herty Medal.)

HERE is a striking chorus from Sophocles' *Antigone,* written about 400 B.C. which recounts the achievements of man up to that time. And we could have added very little to these achievements if we had rewritten it just before the 19th century. This is the chorus, in Jebb's translation, probably the best:

> Wonders are many, but nothing is more wonderful than man; the power that crosses the white sea, driven by the stormy south-wind, making a path between surges that threaten to engulf him; and Earth, the eldest of the gods, the immortal, the unwearied, doth he wear, turning the soil with the offspring of horses, as the ploughs go to and fro from year to year.
>
> And the light-hearted race of birds, and the tribes of savage beasts, and the sea-brood of the deep, he snares in the meshes of his woven toils, he leads captive; man excellent in wit. And he masters by his arts the beast whose lair is in the wilds, who roams the hills; he tames the horse of shaggy mane, he puts the yoke upon its neck, he tames the tireless mountain bull.
>
> And speech, and wind-swift thought hath he taught himself, and all the moods that mould a state, and how to flee the arrows of the frost, when 'tis hard lodging under the clear sky, and the arrows of the rushing rain; yea, he hath resource for all; without resource he meets nothing that must come; against Death alone shall he call in vain for aid, but from baffling maladies hath he devised escape . . .

Notice how slight and elementary are the conquests of man over nature in this chorus. To make the winds drive a ship, to domesticate animals, to build a shelter against the rain and cold, to gain food from the earth, to escape certain "baffling maladies"—this is all he had accomplished in material things . . .

There was then very little progress in our knowledge and control of nature down through the centuries until about 1800 A.D., but with the beginning of the 19th century, and the growth of artificial power, first steam, then electricity, man began to have more leisure, and began also to shake off the restraints which had kept him from inquiring into various natural phenomena. The atomic theory in chemistry, the principle of conservation of energy in physics, the idea of evolution in biology, and particularly the discovery of fossil life, evidence that there had been throughout the ages a progression from lower to higher forms of life, these all came about.

Then followed the telegraph, the railroad, the telephone, automobiles, airplanes, radio, the splitting of the atom, the atomic bomb, and the development of telescopes that enable us to see out into the Universe. And on the other hand, the electron microscope was devised, which permits us almost to see the individual atom, as small as the astronomical universe is large.

Discovery after discovery in the natural sciences has crowded in upon us, and the end is not yet.

Professionalism as Taught in Engineering Schools

(Excerpts from an abstract of a talk given by Prof. Donald L. Katz, Department of Chemical Engineering, University of Michigan, Ann Arbor, Mich., before the Midyear Conference of the Manufacturing Chemists' Association, Inc., in New York, N. Y., Nov. 22, 1960.)

EDUCATORS in engineering schools in general accept the responsibility for spawning the basic concepts of professionalism in their students. Through contacts in the classroom, through the programs of student chapters (of the AIChE), and in special sessions devoted to professionalism, the students are given at least initial concepts of the professional engineer.

By reviewing the characteristics of a truly professional person, it is obvious that an engineering or science school is a fine environment for spawning a professional career. Intellectual achievement, dedication to the enhancement of science for the progress of civilization, integrity, and the dependence of the individual upon his own ability; these are the ideals of a professional person and undergird the educational process. Thus there is only a minimal transition from the position of the professional student to that of the professional engineer.

In a recent survey, the question was asked as to whether the engineering faculties were satisfied with the efforts which were being made to give the graduating engineer a true concept of the professional man. The answer to that question is no. We are not doing enough in this area and there should always be renewed activities to make our programs more effective. The reason for this is that, although the students may leave with a fine idea of their profession, they soon find that things are not as they had expected.

Some of their freedoms are restricted as they enter into the employment of a company as compared to a university. They are assigned to work with a person who is their superior in all matters, while at the university they were working with a diverse group of people—no one person had control over them. In many cases they are earning a living for the first time.

The young engineer may soon begin to think of himself as an employed person rather than as a professional man, with less emphasis on his original goals and more interest in earning a living for his family. Those who desire to unionize engineers say that it takes about five years for the delusion of the engineering profession to become apparent.

We at the university are unable to undergird the engineer through this length of time and agree that we may have more responsibility for a sus-

tained interest in professional matters than our students exhibit. However, I assure you that the American Institute of Chemical Engineers—both a technical and a professional society—places high emphasis on student activities. Also faculties of engineering schools, in the main, take an active part in presenting the concepts of a professional man to their graduates.

Opportunities

Doris Eager, M.A.I.C.

Positions Available

Lubricating Grease Chemist: Experienced in conducting usual laboratory and research work as well as production of industrial lubricants. Long established manufacturer of specialty greases in New York city area offers permanent position to capable man, with good compensation and prospects. Submit complete resume, including marital status and salary range. Box 1576, Grand Central Station, New York 17, N. Y.

Chemist (Physical), Grade 12, $8,955 per year. Plans, conducts, coordinates basic and applied research in physical chemistry and physics applied to biological problems.

Chemical Engineer, Grade II, $7,560 per year. Investigation & development problems within the drying and milling programs. Methods for obtaining specific crystalline structures during freezing operations.

Chemical Engineer, Grade 9, $6,435 per year. Review data from laboratory operations to determine requirements for process; literature searching for availability of equipment or need of special equipment; cost estimation of new equipment and development of equipment not commercially available.

Applications for above should be submitted to the Civilian Personnel Office, Fort Detrick, Frederick, Maryland.

The Northeast Section of the American Chemical Society, Professional Advancement Committee, is sponsoring an all-day meeting, "Current Trends in Organic Chemistry," to be held March 1, 1961, at the 1200 Beacon Street Hotel, Brookline, Mass. For information: Northeast Section, ACS, Dept. of Chemistry, Tufts University, Medford 55, Mass.

Graduate Assistantships and Teaching Fellowships are available at St. John's University to qualified graduate students in chemistry, biology, mathematics, pharmacy, and physics. For information: Rev. Joseph E. Hogan, C.M., Dean, Graduate School of St. John's University, Jamaica 32, N. Y.

Communications

Early Pennsylvania Consultants

To the Editor:

Several publications have stated that Booth, Garrett and Blair of Philadelphia was the first "Consulting Chemists" organization in the U. S. Founded in 1836, I believe that they probably are both the oldest and the longest in continuous operation.

On June 1, 1820, Dr. John Campbell, a Unitarian clergyman and friend of Joseph Priestley, emigrated to America and came to Pittsburgh Pa., at the invitation of Joseph Armorer and others to establish a Unitarian Church and a school where mathematics, languages and the sciences would be taught. Dr. Campbell gave the first science lectures which were free to the public in this city, on astronomy. He conducted private instruction in chemistry to selected pupils and had a laboratory where he performed chemical work for the public. He was closely associated with those connected with the early glass, steel and alkali manufacturing interests of this city. The Meadville Theological School was established directly through his interest and sponsorship. This is now the theological school of the University of Chicago.

Dr. Campbell died in 1823 or 1824. I believe that he was one of a score or more similar individuals of this same era who could be considered "consultants" and who played an important part in the industrialization of the U. S. and the earliest development of our chemical industry and our institutions of higher instruction.

—Emerson Venable, F.A.I.C.
Pittsburgh 32, Pa.

Professional Discussion

To the Editor:

Some of the professional discussion at the October meeting of the Southern California Section of the ACS was very interesting:

(1) *Question*: I am a chemist with a B.S. Why does my son have a more difficult course and so much more to learn?

Answer: The progress of science requires more learning and more intense study. The effort to learn more must be made to keep in step with scientific progress.

(2) *Question*: I have no money for a long course of study.

Answer: There are many fellowships, grants, loans, etc., for those who earnestly need it. If the government cannot spend money for the education of able students, the taxpayer's money would be a bad investment.

(3) *Question*: Is not legislation, without licensing, which is limiting my right to work in a field of my choice, a restriction of personal freedom?

Answer: We have to tolerate such restrictions to protect us against unfair competition and to protect us against those who would lead the public astray and undermine the profession. Is not the legislative requirement of a license a much greater restriction of personal freedom, yet we welcome licensing.

(4) *Question*: Public opinion will never recognize the chemists as a profession, like the physicians or lawyers.

Answer: Public opinion is the opinion which we, you and I, put into the public's mind. It is our own fault if the public does not recognize us. If we do not fight for our position or enlighten the public in our way, we will never get a public opinion favorable for us. Watch the TV programs. There is not one week in which we do not see at least two shows in praise of the profession of the physicians. Is this not injecting the public with a certain opinion? We should do the same and should not be ashamed to say, "We are the chemists who give the physicians the tools." But we are silent and afraid to speak. Yet we are an academic profession and we want to be recognized.

(5) *Question*: Does not licensing give responsibility?

Answer: If our profession needs a license to know what responsibility is, this is bad . . . Do we need an examination by an incompetent board to tell us what responsibility is?

These comments and others would seem to show that we should strive for legislation protecting the professions, especially chemists. It would be wiser if all academic professions would close their ranks and fight together for recognition and status. This would help not only the professions, it would spur on the young people to pick up the burden and study longer for the benefit of the nation.

May I make a last remark. In my opinion there does not exist a board, an institution, or a society, which is more competent in the judgment of the knowledge and character of a student than the faculty of the schools of higher learning. The faculties must be made more aware of this high duty, and their members must act accordingly.

—Dr. Robert Lobstein
Santa Monica, California

Suggestions for Student Medalist Essay Contest

To the Editor:

Congratulations to Barbara D'Iorio, A.A.I.C., of Chestnut Hill College, Philadelphia, and to Arnold Krubsack of St. Olaf College, Northfield, Minn., for the excellent way in which they outlined reasons why student medalists find it hard to submit entries to the Student Medalist Essay Contest (THE CHEMIST, Jan. 1961, pp. 22-24). Their letters are models of sound exposition, clear writing, and an understanding of beginning career responsibilities.

Their thoughts suggest possible improvements in the Essay Contest which the committee in charge might well ponder. For example, the contest deadline might be extended to the year's end; the 2000-word length requirement might be reduced, and the $100 single first prize be rearranged to provide $50 first, $25 second, $15 third and $10 fourth prizes.

I would offer the thought that the committee might, if within their policy area, decide that these two young writers be awarded shares of this year's prize fund for their constructive contributions.

—Dr. Maurice J. Kelley, F.A.I.C.
Bloomfield, N. J.

Information Wanted

To the Editor:

The library of the McGraw-Hill Book Co. has received three separate inquiries from students of chemistry about a pamphlet entitled, "The Chemist is a Curious Man."

I have looked in the Index for the *Journal of Chemical Education* and in the Key to two popular high-school textbooks (*Chemistry for Our Times*, 3 ed., McGraw-Hill, and *Modern Chemistry*, Holt) and can find no reference to this item.

Can someone help us locate this? Information can be telephoned (LOngacre 4-3000) to Ruth Abbadessa, McGraw-Hill library, 330 West 42nd St., New York 36, N. Y.

—Elbert C. Weaver, F.A.I.C.
Andover, Mass.

The Right Answer

Martin B. Williams, F.A.I.C., AIC National Council Representative from the Alabama AIC Chapter, reports that while filling out the U. S. Civil Service Commission's Standard Form 9, he came to the following question:

29. *Additional Information and Comments*: (*Include any professional license or registration which you hold and state in which issued.*)

His answer was: "Unlike engineers, chemists are not licensed in most states; however, the grade of Fellow of The American Institute of Chemists is regarded as more than the equivalent of a professional license, as the requirement for this grade is the successful completion of four years of college work in chemistry or chemical engineering in an institution accepable to the National Council, followed by a minimum of 10 years of progressive experience and responsibility in the practice of the profession, satisfactory to the National Council (i.e., t' e achievement of 'full maturity in the professions as evidenced by record of outstanding scientific accomplishments or by having attained positions of distinction or responsibility)."

Dr. Herman F. Mark, F.A.I.C., and the 20th year of Polymer Chemistry at Polytechnic Institute of Brooklyn, Brooklyn 1, N. Y., were honored with a symposium, titled, "Frontiers of Polymer Chemistry," on Dec. 17. Speakers were **Dr. Peter Debye,** F.A.I.C., and Dr. Linus Pauling, both Nobel laureates, and Dr. W. O. Baker, vice president of research, Bell Telephone Laboratories.

Dr. Otto Eisenschiml, F.A.I.C., is on a speaking tour for the American Chemical Society. His subjects are: "Chemistry and the Civil War," "The Scientific Manpower Situation," "The Business Side of Chemistry," "Solving a Chemical Murder Case," and "A Chemist's Adventures in Music."

Roger Williams, Jr., F.A.I.C., announces that Roger Williams Technical & Economic Services, Inc., of Princeton, N. J., have opened a second European office at 36, Rue du XXXI-Decembre, Geneva, Switzerland, headed by M. Claude R. Tripet.

Friends Departed

Dr. Frederick W. Zons

Dr. Zons, AIC Charter Member, was born Sept. 30, 1887, in New York, N. Y., and died in Brooklyn, N. Y., Dec. 4, 1960. The National AIC Council adopted the following Resolution at its meeting held Dec. 7, 1960:

WHEREAS, with the death of Frederick W. Zons, THE AMERICAN INSTITUTE OF CHEMISTS has lost one of its Charter Members, whose many services to the Institute included that of being a national councilor, a member of the Public Relations Committee, and most recently the Committee on AIC History;

WHEREAS, from 1917 until his death he had demonstrated outstanding dedication to professional society affairs, as witnessed by his Editorship of *The Indicator* from 1925 to 1958, and his other services to the New York and North Jersey Sections of the American Chemical Society, and therefore,

BE IT RESOLVED, that the Council of THE AMERICAN INSTITUTE OF CHEMISTS express its deep sorrow for the death of Dr. Frederick W. Zons, and

BE IT ALSO RESOLVED that this Resolution be published in THE CHEMIST and a copy be sent, with the sympathy of the Council, to his sister, Miss Clarissa Zons.

Dr. Andrew Jackson Chadwell, Jr.

Dr. Chadwell, F.A.I.C., born Oct. 3, 1931, died Oct. 4, 1960, in the Tennessee Eastman explosion at Kingsport, Tenn. He received the B.S., M.S., and Ph.D. (1958) degrees in chemistry from the University of Tennessee. He joined the Tennessee Eastman Co. in 1957 as research chemist. In 1958 he was stationed at Wright-Patterson Air Force Base, Dayton, Ohio, for active duty as 1st Lt. with the Air Force, but went back to Tennessee Eastman in 1960. He specialized in the chemistry of rhenium and its compounds.

Dr. Clyde A. Crowley

Dr. Crowley, F.A.I.C., born June 25, 1902 in Missouri, died Sept. 21, 1960, while addressing the Lambda Chi Alpha fraternity at Arizona State University, Tempe, Ariz. He received the B.S. degree from Chicago Technical College and the M.S. and Ph.D. degrees from Loyola University. He was a licensed professional engineer in 4 states. He was the author of nearly 500 technical and popular articles. After a number of years as a consultant, he joined Arizona State University in 1956 as chairman of the Department of Chemistry, for which "he worked day and night to develop an effective program in chemistry at both the graduate and undergraduate levels."

Dr. Gilbert Irwin Davis

Dr. Davis, F.A.I.C., born Sept. 30, 1905 in Philadelphia, Pa., died there Aug. 19, 1960. His first work in chemistry was taken by correspondence. His doctorate degree was in law. Yet he so applied himself to study, impelled by a deep and sincere interest in chemistry, that from 1924, he held positions as analytical and research chemist with such companies as H. K. Mulford, National Drug Co., Philadelphia Storage Battery, Wyeth, Inc., and Lustgarten Laboratories. He was the author of many articles on biochemistry and biology.

Dr. Marion Eppley

Dr. Eppley, F.A.I.C., born June 19, 1883 in West Orange, N. J., died Nov. 22, 1960 at his home in Oyster Bay, N. Y. He received the B.S. and M.A. degrees from Princeton; the Ph.D. from Columbia. In 1919, he founded the Eppley Laboratory, Inc., at Newport, R. I., and later the Eppley Foundation for Research, Inc. He served as an officer in the Navy in both World Wars I and II. He was awarded the Howard N. Potts Gold Medal from the Franklin Institute of Philadelphia, in 1926, for his work on electrical standard cells. He was the author of a number of scientific articles.

Dr. Ernest Lee Jackson

Dr. Jackson, F.A.I.C., born Sept. 27, 1891, at Gillsville, Georgia, died June 14, 1960, in Washington, D.C. He received the A.B. degree from the Univer-

sity of Georgia; the M.S. from Vanderbilt; the M.A. and the Ph.D. from Harvard. After teaching experience at the University of Georgia, Emory, and Western Reserve, he spent a year with the Chemical Warfare Service, and then, in 1929, became senior chemist, and later principal chemist, for the National Institutes of Health, Bethesda, Md. He was the author of many scientific articles in the fields of chemotherapy and organic chemistry.

Russell W. Mumford

Russell W. Mumford, F.A.I.C., born Oct. 15, 1890, died May 5, 1960, in Glendale, Calif. He held the A.B. degree from Michigan State Normal College and the A.M. from Columbia University. After teaching at Michigan State Normal and at Columbia, he joined U. S. Industrial Chemical Co. in 1917. In 1920 he went to American Potash & Chemical Corp., Los Angeles, Calif., becoming vice president. "He has been a leader in the potash industry—responsible for more technical advances than any other chemist or engineer since John Teeple." He held a number of patents in this field.

Ralph Richard Oliver

Ralph R. Oliver, F.A.I.C., born 1886 at Lockport, N. Y., died there in October 1960. His academic work was done at the University of Manchester, England; the School of Technology at Manchester, and the Institute of London. From 1912 to 1919 he was technical director for Southern Fibre Co., Portsmouth, Va., then chief chemist for Everett Pulp & Paper Co., Everett, Wash. In 1930 he joined Lockport Cotton Batting Co., Lockport, N. Y., as chief chemist, where he was highly regarded. He held a number of patents in the textile and cellulose field.

Dr. Willem Rudolfs

Dr. Rudolfs, Emeritus Fellow AIC, born Feb. 13, 1886, in Holland, died in Joppe, The Netherlands, in 1960. He studied at the Pasteur Institute, Paris, the University of Illinois, and Rutgers University, from which he received the Ph.D. in 1921. From 1926 until his retirement, he was professor at the N. J. Agriculture Experiment Station of Rutgers, New Brunswick, N. J. He was the author of many technical articles in the field of agricultural science and sanitation.

Thomas J. Walsh

Thomas J. Walsh, F.A.I.C., born Dec. 14, 1895, in Newark, N. J., died in December 1960 in Newark. He studied at the Newark College of Engineering and Columbia University. He specialized in the chemistry of the platinum metals, and prepared some 27 major writings on the subject, "not published, restrictions on same." He held a number of patents. In 1921, he became research and plant chemist for Baker & Co., Inc., Newark, N. J., and later, laboratory director for Engelhard Industries, Newark.

FOR YOUR LIBRARY

Modern Aspects of Inorganic Chemistry

By H. J. Emeleus and J. S. Anderson, D. Van Nostrand Company, Inc. Third Edition (Revised and Reset) 1960. 611 *pp.* 5½" x 8½". $7.75.

H. J. Emeleus, Professor of Inorganic Chemistry at the University of Cambridge, and J. S. Anderson, Director, National Chemical Laboratory, cover "the most important developments in inorganic chemistry," with a change in order of presentation "to bring different aspects of some of the main topics into logical relation to each other." Topics discussed include valency, poly-acids and silicates, reactions in non-aqueous solvent systems, the peroxides and per-acids, interstitial and non-stoichiometric compounds, and recent chemistry of the radioactive elements.

—R. S. Wanush

The Nature & Properties of Engineering Materials

By Zbigniew D. Jastrzebski. John Wiley & Sons, Inc. 1959. 571 *pp.* 6" x 9½". $11.00.

Engineering materials are presented from a chemical viewpoint, resulting in careful and precise definition of properties and basic physico-chemical concepts of metals, ceramics and organic plastics. Clarity and succinctness characterize this book.

—Dr. John A. Steffens, F.A.I.C.

Theoretische Biochemie. Physikalische-Chemische Grundlagen der Lebensvorgaenge

By Hans Netter. Springer-Verlag. (Berlin-Goettingen-Heidelberg) 1959. 816 *pp.* 7" x 10". *DM* 88.00.

This book presents: Particles and forces in molecular dimensions; Diffusion and osmosis; Electrolytes; Phases and surfaces; Builders of high molecular structures; Energetics of life processes; Biologic oxidations; Formation of free energy; Control of biochemical reactions; Dynamic and structural functional units. Numerous theories, laws and procedures and their mathematics are discussed. The volume is supplemented with a satisfactory number of graphs and tables. This book is highly recommended to chemists interested in the application of physical chemistry to biologic problems.

—Dr. Henry Tauber, F.A.I.C.

Chemical Books Abroad

By Dr. Rudolph Seiden, F.A.I.C.

Springer-Verlag, Berlin: *Polarographisches Praktikum,* by J. Heyrovsky; 2nd ed., 116 pp. (105 ill.); DM 19.80—The Nobel prize was given in 1959 to Prof. Heyrovsky for introducing polarography into modern chemistry; this book describes the laboratory methods clearly and concisely.

Verlag Chemie, Weinheim/Bergstr.: *Chemie und Technologie der Silicone,* by W. Noll *et al.;* 1960, 476 pp. (101 ill.); DM 39.80—An up-to-date survey of the various types of silicones, their chemistry, properties, production, and uses in industry, medicine, pharmacy, and cosmetology. With 2000 literature references.

Oxford University Press; London (New York): *Data for Biochemical Research,* by R. M. C. Dawson *et al.;* 1959, 312 pp.; $10.10.—A collection of tables containing a multitude of data on well-known and rare biochemical compounds, buffers, ion exchange resins, reagents, etc. A most important work for every-day use by research workers; with numerous references to more detailed information.

Fachbuchverlag, Leipzig: *Technologie der chemischen Industrie, II,* by H. Daniel and R. Hasselbarth; 1960, 211 pp. (67 ill.); DM 6.80—Describes briefly the manufacture of organic chemical products and the organic-chemical industry, East Germany's. • *Technologie der wichtigsten Industrie-und Wirtschaftzweige, III,* by H. Neumann *et al.;* 1959, 254 pp. (263 ill.); DM 7.50—Deals with rolling mill procedures and the testing of metals and alloys. • *Technologie des Bergbaues,* by E. Lewien and P. Hartmann; 1958, 210 pp. (176 ill.); DM 6.80—Discusses popular-scientifically the various phases and types of the mining industry.

Verlag Die Wirtschaft, Berlin: *Laender der Erde,* by A. I. Denissow *et. al.; 2nd* ed. 788 pp.; DM 19.50—A systematically arranged handbook of the political and economic conditions in all countries of the world. Of special interest are the data on the industry of Russia and China, particularly when compared with those of the far-advanced U. S. A. It is translated from the Russian and supplemented by East-German officials so as to include figures and facts in most cases up to the year 1957 (occasionally 1958).

Editio Cantor, Aulendorf in W.: *Hilfstoffe fuer Pharmazie und angrenzende Gebiete,* by H. v. Czetsch-Lindenwald and H. P. Fiedler; 1960, 198 pp.; DM 23.—A handy encyclopedia of many hundreds of auxiliary agents used in pharmacies and the pharmaceutical industry from Abacterin (a preservative) to Zuckerester (sugar esters). It includes fillers, binders, solvents, propellants, emulsifiers, lubricants' etc. • *Praxis der Ampullierung,* by H. Kuntscher and W. Fahrig; 1960, 190 pp.; DM 25.—A treatise on ampules, with emphasis on the difficulties which are so often encountered when sterile injectables are prepared and filled into glass containers.

Dr. R. C. Swain, F.A.I.C., director general of Cyanamid International, announces the formation of a new company, Formica Plasticos, S.A., in Sao Paulo, Brazil, through the purchase by the American Cyanamid Co. of Plasticos do Brasil, S.A.

I. Jordan Kunik, F.A.I.C., patent lawyer, New York 17, N. Y., spoke on "Patents and the Advancement of Knowledge," at a symposium in honor of retiring Commissioner Robert C. Watson of the U. S. Patent Office, December 30, during the annual meeting in New York of the AAAS.

Dr. Paul W. Jewel, F.A.I.C., chief chemist, Max Factor & Co., Hollywood 28, Calif., spoke in Las Vegas, Nevada, at the January meeting of the Boulder Dam Section of the American Chemical Society, on "Modern Chemistry in Cosmetics."

Dr. Frederick G. Sawyer, F.A.I.C., vice president, Jacobs Engineering Co., Pasadena, Calif., announces the addition of the following to its staff: Dale L. Schrader, senior project engineer; Russell E. Goodman, senior process engineer; Joseph W. Gordy, project manager and construction superintendent; Ora L. Underwood, materials handling and instrumentation engineer; Warren E. McElroy, project engineer; William A. Day, chemical engineer; and F. Waite Lukesh, construction superintendent and field project engineer.

The Gordon Research Conferences this summer will be held at four sites. Tilton School, Tilton, N. H., has been added to the three former locations, at Colby Junior College, New London, N. H.; New Hampton School, New Hampton, N. H., and Kimball Union Academy, Meriden, N. H. Applications for attendance or for information should be directed to **Dr. W. George Parks,** Hon. AIC, University of Rhode Island, Kingston, R. I.

William P. Dooley, F.A.I.C., has joined Sun Oil Company, Philadelphia 3, Pa., as marketing specialist in the commercial development division of the Research & Engineering Department.

David W. Young, F.A.I.C., of Sinclair Research Laboratories, Inc., Chicago, Ill., spoke before the Desk & Derrick Club of Chicago, January 10, on "Antonio Stradavari, the Artist and Chemist."

Frank J. Steele, F.A.I.C., of Greenwich Hospital, Greenwich, Conn., is instructing a class in "Social Psychology" at the Henry George School of Social Science, 50 E. 69th St., New York 21, N. Y.

Professional Appointments

Feb. 2, 1961. Philadelphia, Pa. Penn-Sherwood Hotel, 3900 Chestnut St. Honor Scroll Award meeting of Philadelphia Chapter. Recipient: Dr. Charles C. Price, F.A.I.C., of the University of Pennsylvania. Address: "The Story of Polyether Rubber." Reception 6:30 p.m. Dinner 7:15 p.m. Address 8:30 p.m. For reservations: Dr. C. K. Deischer, Harrisson Lab., 34th St. & Spruce, Philadelphia, Pa. (EVergreen 6-0100, Ext. 8317).

Feb. 9, 1961. New York, N. Y. The Chemists' Club, 52 E. 41st St. Meeting of AIC National Council and Board of Directors. Council meets at 6:00 p.m. Board at 5:30 p.m.

Feb. 10, 1961, New York, N. Y. Hotel New Yorker, 34th St. & 8th Ave. Joint meeting of New York Chapter of AIC and New York Section of American Chemical Society, under auspices of ACS. Speaker, Dr. Milton Harris, AIC president. Subject, "Is the Chemist Ready for the Technological Age?" For information: Dr. K. S. Konigsbacher, Evans Research & Development Corp., 250 E. 43rd St., New York 17, N. Y.

Feb. 14, 1961. Buffalo, N. Y. University of Buffalo, Norton Hall. Meeting of Niagara Chapter. Speaker: Dr. Edward Buehler, Department of Geology and Geography, The University of Buffalo. Subject: "The Geology of the Niagara Frontier." Dinner 6:30. For reservations: Prof. Howard W. Post, Secretary of the Chapter Chemistry Dept., University of Buffalo, Buffalo 14, N. Y.

Feb. 15, 1961. Chicago, Ill. Beaubien Room. Meeting of Chicago Chapter. Speaker, Dr. A. C. Ivy of the University of Illinois. For information: Chicago Chapter Secretary, Miss Helen Selin, 6916 N. Wayne Ave., Chicago 26, Ill.

Feb. 16, 1961. Watertown, N. Y. Hotel Woodruff. Dinner meeting, Beaver Falls Chapter. Social hour 6:30 p.m. Speaker: Dr. Johan Bjorksten, President, Bjorksten Research Labs., Madison, Wis. Subject: "Aging and Its Professional Implications." Ladies Invited. For information: Carlton Force, Latex Fiber Industries, Beaver Falls, N. Y.

Mar. 7, 1961. Atlanta, Georgia. The Athletic Club. Meeting of Piedmont AIC Chapter. Speaker, Dr. Milton Harris, AIC president. For information: Prof. W. I. Wynn, Secretary of the Chapter, Emory University, Atlanta, Ga.

Mar. 8, 1961. Chicago, Ill. Builders Club. Joint meeting of Chicago Chapter with AIChE. For information: Chicago Chapter Secretary, Miss Helen Selin, 6916 N. Wayne Ave., Chicago 26, Ill.

Mar. 8, 1961. Birmingham, Ala. Meeting of Alabama Chapter. Speaker Dr. Milton Harris, AIC president. For information: Robert E. Lacey, Secretary of the Chapter, 141 Kenilworth Dr., Birmingham, Ala.

Mar. 9, 1961. New Orleans, La. Meeting of Louisiana Chapter. Speaker, Dr. Milton Harris, AIC president. For information: Lawrence E. Brown, secretary of the Chapter, Southern Utilization Research & Development Division, USDA, New Orleans 15, La.

Mar. 14, 1961. Minneapolis, Minn. (Place to be announced) Joint meeting of Twin City Chapter with Minnesota Section ACS, Twin City Section of AIChE, and the Minnesota Industrial Chemists Forum. For information: Dr. H. L. Weisbecker, 2138 Berkeley Ave., St. Paul, Minn.

Mar. 30, 1961. Los Angeles, Calif. Los Angeles Athletic Club, 431 W. 7th Street. Meeting of Western Chapter. Speaker: Dr. Willard Libby, Nobel laureate. Subject, "Our Atomic Future." For information: Stuart R. Garnett, chairman of the Chapter, Blue Diamond Co., 1650 S. Alameda St., Los Angeles 54, Calif.

Mar. 30, 1961. Kansas City, Missouri. Rockhurst College, Massman Hall. 7:30 p.m. Meeting of Midwest AIC Chapter. Election of officers. Speakers: Warren Williams, patent attorney; Earl Johnson, vice chairman of the Chapter, and Dr. A. Ernest MacGee, chairman of Chapter. For information: Earl D. Johnson, 2409 W. 47th Terrace, Kansas City 3, Kansas.

Apr. 4, 1961. Niagara Falls, N. Y. Meeting of Niagara Chapter. Place, subject and speaker to be announced. For information, Prof. Howard W. Post, Secretary of the Chapter, Chemistry Department, University of Buffalo, Buffalo 14, N. Y.

Apr. 6, 1961. Philadelphia, Pa. Luncheon meeting of Philadelphia Chapter. For information, Dr. Ezra Bitcover, Secretary of the Chapter, c/o U. S. Department of Agriculture, Eastern Utilization Research Div., Philadelphia 18, Pa.

Apr. 13, 1961. Watertown, N. Y. Hotel Woodruff. Social hour 6:30 p.m. Dinner 7:30 p.m. Meeting of Beaver Falls Chapter with TAPPI. Speaker, Dr. K. A. Arnold, T.D., St. Regis Paper Co., New York, N. Y. Subject: "The Planning of a Technical Center." For information: Carlton Force, Latex Fiber Industries, Beaver Falls, N. Y.

Apr. 19, 1961. Chicago, Ill. Beaubien Room. Meeting of Chicago Chapter. Speaker, Dr. E. J. Sparling of Roosevelt University. For information: Chicago Chapter Secretary, Miss Helen Selin, 6916 N. Wayne Ave., Chicago 26, Ill.

April 20, 1961. New York, N. Y. Place to be announced. Meeting of New York Chapter. Presentation of Honorary AIC Membership to Dr. Lloyd Van Doren, retired AIC Secretary. Subject of discussion, "Chemical Patent Procedure."

May 4, 1961. Paoli, Pa. Paoli Inn. Student Honor Award Meeting of Philadelphia Chapter. Topic and Speaker to be announced. For information: Dr. Ezra H. Bitcover, Chapter Secretary, U. S. Dept. of Agriculture, Eastern Utilization Research Div., Philadelphia 18, Pa.

May 11-12, 1961. Washington, D.C. Statler Hotel, 38th Annual AIC Meeting. The Washington Chapter will be our host. (See page 41).

May 12, 1961. Minneapolis, Minn. (Place to be announced) Meeting of Twin City Chapter. Presentation of student medals. For information: Dr. H. L. Weisbecker, 2138 Berkeley Ave., St. Paul, Minn.

May 17, 1961. Chicago, Ill. Beaubien Room. Meeting of Chicago Chapter. Speaker, Dr. Gerald Gordon, E. I. du-Pont de Nemours & Co. For information: Chicago Chapter Secretary, Miss Helen Selin, 6916 N. Wayne Ave., Chicago 26, Ill.

May 25, 1961. New York, N. Y. Place to be announced. Presentation of the Honor Scroll of the New York Chapter. Honoree and details to be announced.

June 6, 1961. Niagara Falls, N. Y. Meeting of Niagara Chapter. Student medals will be presented. Place, subject and speaker to be announced. For information, Prof. Howard W. Post, Secretary of the Chapter, Chemistry Department, University of Buffalo, Buffalo 14, N. Y.

June 21, 1961. Chicago, Ill. Beaubien Room. Meeting of Chicago Chapter. Speaker, Dr. A. Allan Bates, Portland Cement Association. For information: Chicago Chapter Secretary, Miss Helen Selin, 6916 N. Wayne Ave., Chicago 26, Ill.

A Scientist Journeys in Africa

The AIC Philadelphia Chapter met, Dec. 1, at the Engineers Club, Philadelphia, Pa., to hear Dr. William G. Schmidt, dean-emeritus of Hahnemann Medical College, speak on "A Scientist Journeys in Africa." He showed 16 mm. films of his travels in Africa and commented on the scientific aspects of the region.

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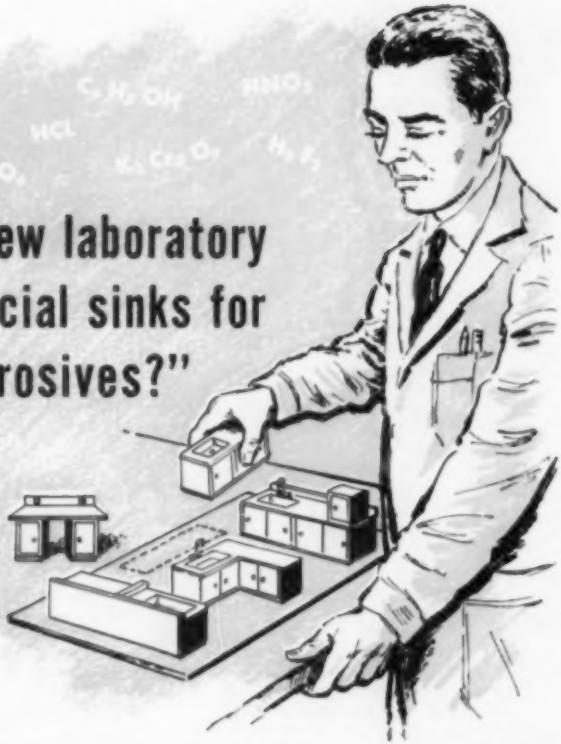

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